



## Cable Switch LHPEw-10/2-B-S up to 100 m



Cable emergency switches are used for quick switching off conveyor belts or other large machines and equipment by pulling the cable connected with a switch. Cable emergency switches serve as a protection e.g. at a fall on the conveyor, trapping by a machine or towing by the cable etc.

Cable emergency switches of LHPEw-10/2-B-S series are intended for being mounted between two cables. The maximum cable length at each side is 50 m. When one of the cables is pulled, the switch contacts are instantaneously switched over and at the same time automatically blocked, which prevents spontaneous switching back. The switch can only be returned to the neutral position manually directly on it by releasing the blockage.

The switch-off cable trajectory with the length of 34 mm minimizes accidental activations which could occur due to the thermal expansion of the cable, see the chart.

Thanks to the equipment by two tension springs SPF-W the requirement of CSN EN ISO 13850 (automatic switch-off in case of the cable break) is met. The switch cabinet is made of colour glass fibre reinforced polyester.

The switch includes a RL5 cable and two SPF-W springs. If a customer uses unsuitable cable or springs, the manufacturer does not assume liability for the correct function of the switch.

Cable emergency switches of LHPEw-10/2-B-S series are produced with the protection class II, where no protective conductor must be led to.

The contacts of A and B switches in this series (E economy in the name) are not fitted with synchronisation of disconnecting and the lever angle between disconnection of contacts can reach up to 2° (approximately 1 mm of the cable trajectory). To synchronize the contacts with 0° angle, the type series of "E" must be used, i.e. LHPw-10/2-B-S.

### Technical parameters:

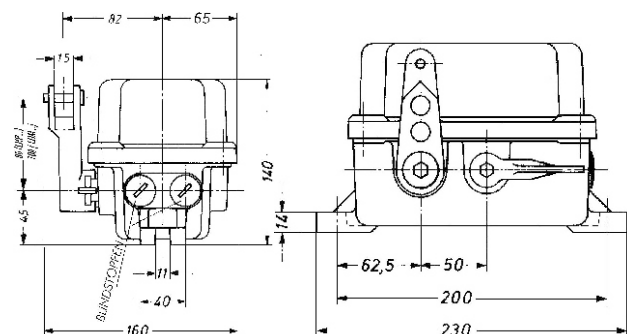
Meets standards	ČSN EN 60947 ČSN EN 60204 ČSN EN 60529 ČSN EN ISO 13850 ČSN EN 620
Switching trajectory	34 mm according to the setting of springs for the temperature difference of max. 59°C
Force necessary for switching	>40N
Cable input	2 holes for M25x1.5 with a blank flange
Cabinet material	glass fibre reinforced polyester
Cabinet colour	yellow RAL 1003
Attachment	By two longitudinal M10 belts
Working temperature	-40°C - +85°C
Protection class for the type ... S	Class II
Number and function of contacts	2 disconnecting and 2 connecting
Protection	IP 67
Load-bearing capacity	400VAC/6A, 230VAC/8A, 24VDC/10A, 80VDC/3A
Values for calculating the level of PL properties: B10 = 80,000 cycles	

### Accessories for a single LHPEw-10/2B-S switch:

They must be specified in the order including the number of pieces and length, see the Catalogue Sheet "Cable Switches Accessories".

Spring with a chain	SPF-W	2 pcs
Cable	RL5	* m
Tensioning lock	SPS6	2 pcs
Eye on the cable	SKA5	4 pcs
Cable clamp	SKL5	8 pcs
Cable guide eye	SH_	* pcs
Bushing M25 x 1.5	M25 x 1.5	*2 pcs

\* The number will be determined according to assembly documentation depending on the conveyor length

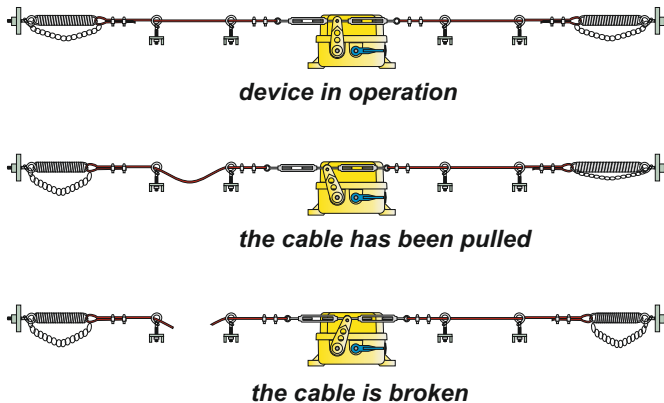


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### Switch function

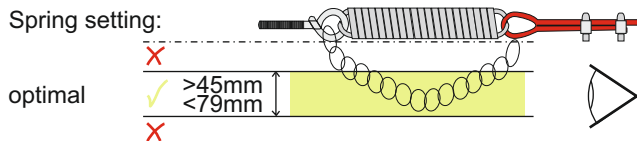


### Correct switch position



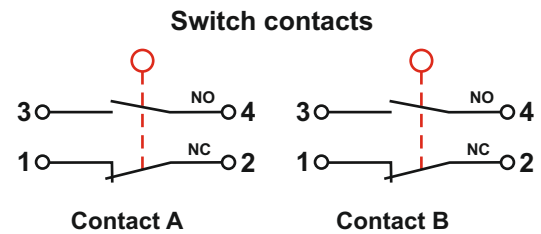
To achieve the correct switch function, the springs with chains at both ends of cables must be optimally set. The normal line of the looping chain must be at least 45 mm far from the spring.

A temperature change influences the cable length thus also the looping chain. When checking the setting it can be visually determined, whether the chain is correctly set.

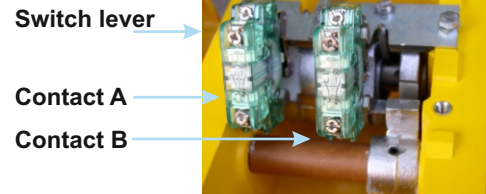


Cable switches as emergency stops are assembled based on the assembly documentation. The assembly documentation describes positions of cable switches, calculations of maximum cable length depending on the temperature and friction. It must take into account inspection round routes, mechanical stress, obstacles, dangerous places, covers, etc.

Besides this machinery part it is necessary to perform, based on a protocol of the determined control circuit safety category, correct connection which determines how and how many conveyers will be stopped in case of the emergency stop switch activation. Further information is given in the Catalogue Sheet "Assembly Documentation".



### Order of contacts in the switch



Example: The cable length is 43 m.  
The temperature during the cable assembly was 10°C. This application will not influence the switch in the temperature range from 23°C to 44°C.

**Formula for calculating the maximum cable length depending on the temperature difference and switching trajectory of the cable switch**

$$L = S / (\alpha / (T_{max} - T_{min}))$$

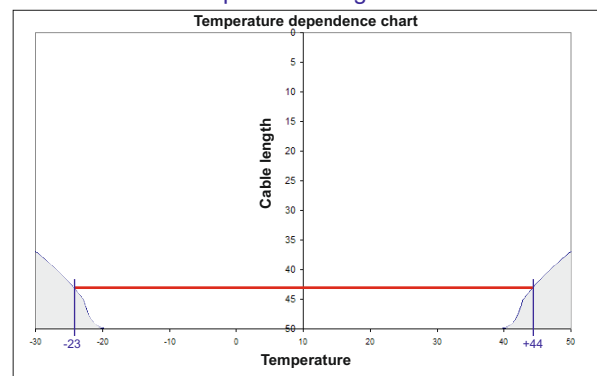
L maximum cable length (m)  
 S cable switch switching trajectory (mm)  
 T max maximum temperature (°C)  
 T min minimum temperature (°C)  
 α thermal extension coefficient for steel α = 0.0000115/m °C<sup>-1</sup>

**Put the S, Tmax and Tmin values in**

L =  $\frac{0.034}{0.0000115 / (40 - (-15))}$   
 S Tmax Tmin

Result:  
 L = 53.754941

Warning! The length permitted by the manufacturer must not exceed 50 m at one side.



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